

4.0 Iron Mountain Road – Skeet Range, Parcel 69(Q)

4.1 Site Description

The Skeet Range, Parcel 69(Q), was constructed in 1988 and was in operation until October 1998. Base personnel used the Skeet Range for clay skeet and trap shooting competition. Historically, ordnance fired at the Skeet Range consisted of shotgun rounds. The total site, including the range fan, occupies 13 acres. This area consists of two sets of concrete firing lines with 14 firing points. The eastern slope of Sunset Hill (approximately 100-feet high relative to the range floor) serves as the main impact zone for the range. The range also included three concrete block houses for throwing skeet, one concrete trap bunker, a range office, covered picnic/shelter areas, and latrines. All of the buildings and structures were removed from the site in 2001. Refer to Figure 4-1 for the Skeet Range, Parcel 69(Q) location.

4.2 Sample Locations and Rationale

The sampling locations and rationale are listed in Table 4-1. Proposed sampling locations are shown in Figure 4-2. Surface soil sample designations and quality assurance/quality control (QA/QC) sample requirements are summarized in Table 4-2. Groundwater sample designations and QA/QC sample requirements are summarized in Table 4-3. The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Table 4-4 of this SFSP and Table 6-1 in the QAP. The final sampling locations will be determined in the field by the on-site geologist, based on actual field conditions.

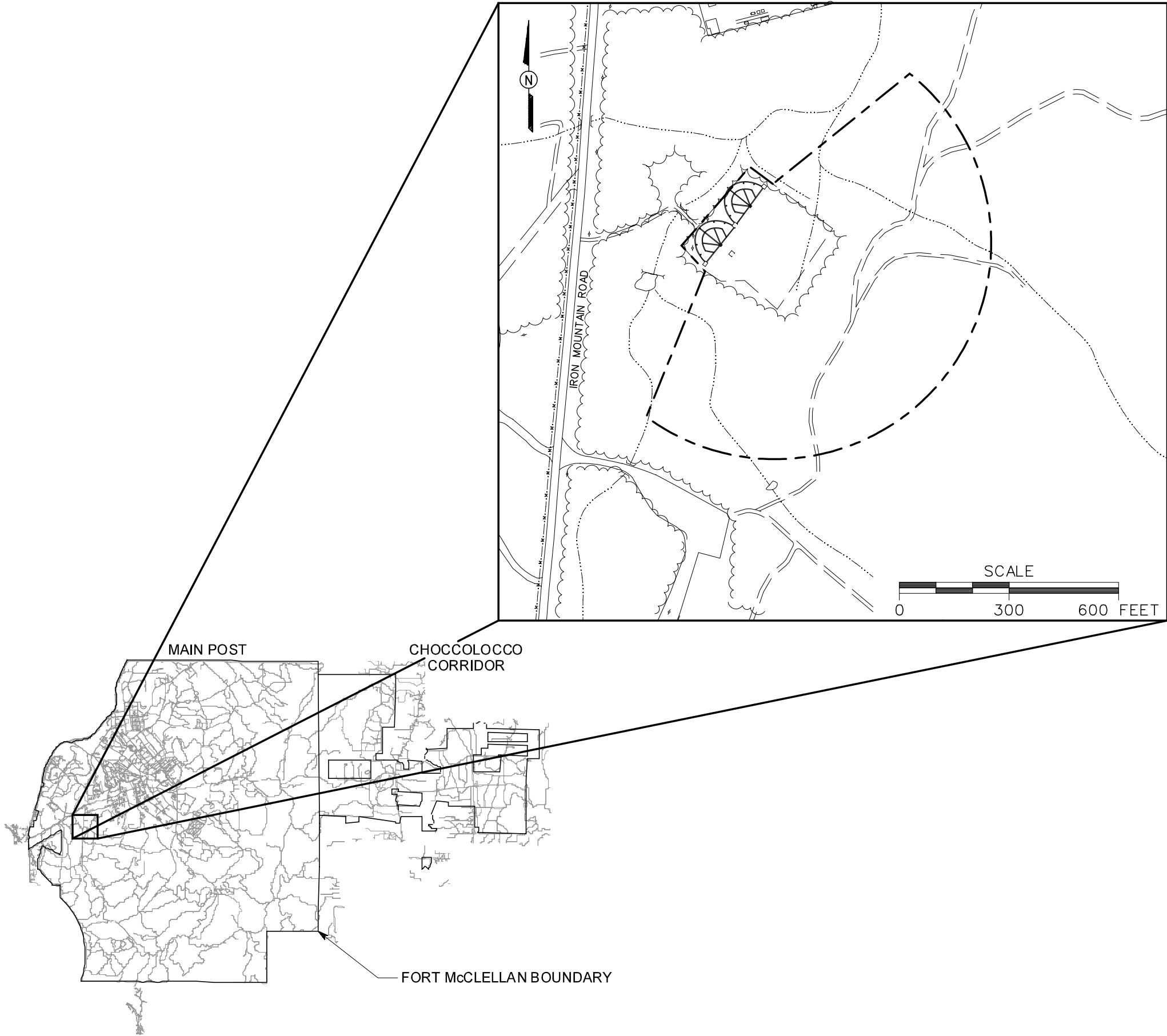


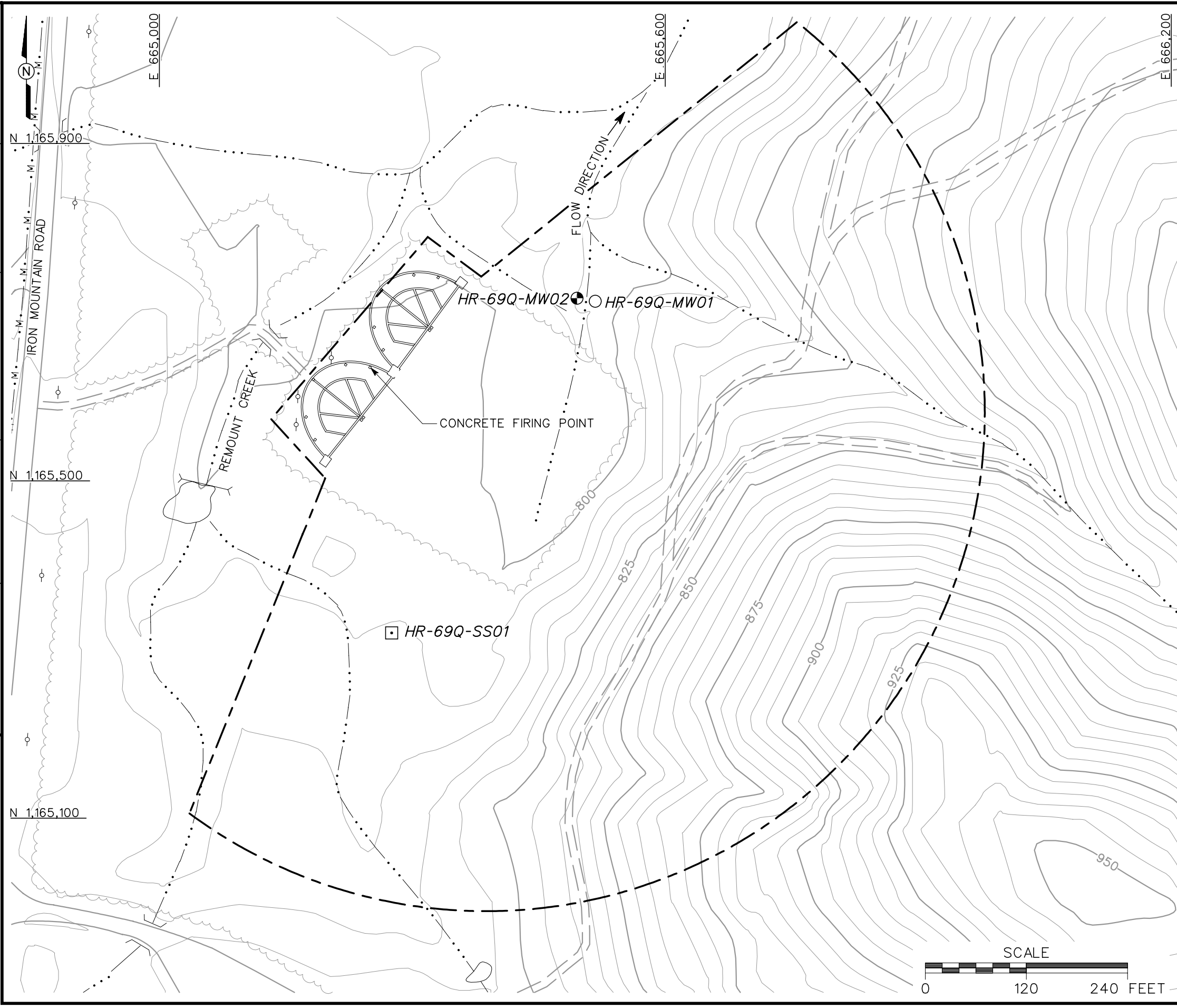
FIGURE 4-1
SITE LOCATION MAP
SKEET RANGE
PARCEL 69(Q)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

Table 4-1

**Sampling Locations and Rationale
Range Sampling
Iron Mountain Road
Skeet Range, Parcel 69(Q)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Media	Sample Location Rationale
HR-69Q-MW01	Groundwater	Residuum monitoring well to be installed adjacent to proposed bedrock monitoring well HR-69Q-MW02. The monitoring well is to be installed downgradient of the skeet range near a location found to have a high concentration of lead in sediment. The completed depth of the well is anticipated to be approximately 45 feet below ground surface (bgs). Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a local groundwater flow direction, characterize site-specific geology, and provide information on groundwater quality in the residuum aquifer.
HR-69Q-MW02	Groundwater	Bedrock monitoring well to be installed adjacent to proposed residuum monitoring well HR-69Q-MW01. The monitoring well is to be installed downgradient of the skeet range near a location found to have a high concentration of lead in the sediment. The completed depth of the well is anticipated to be approximately 100 feet bgs. Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a vertical hydraulic gradient, characterize site-specific geology, and provide information on groundwater quality in the bedrock aquifer.
HR-69Q-SS01	Surface soil	Surface soil sample location to be collected near the Engineering Evaluation/Cost Analysis soil sample location (SS11) where a high concentration of lead was detected. Surface soil sample will be analyzed for a complete set of parameters to determine if the skeet range has been impacted with any additional contaminants (there is known lead contamination). Soil sample data will also be used to assess potential impacts to terrestrial biota that might utilize the site for food and/or habitat.



- LEGEND
- UNIMPROVED ROADS AND PARKING
- PAVED ROADS AND PARKING
- BUILDING
- 850

TOPOGRAPHIC CONTOURS
(CONTOUR INTERVAL - 5 FOOT)
- TREES / TREELINE
- BOUNDARY OF FIRING LINE AND VISIBLE
SHOTGUN PELLET IMPACTED AREAS
- SURFACE DRAINAGE / CREEK
- MANMADE SURFACE DRAINAGE
FEATURE
- FENCE
- UTILITY POLE
- CONCRETE FIRING POINTS
- PROPOSED BEDROCK MONITORING WELL
LOCATION
- PROPOSED RESIDUUM MONITORING WELL
LOCATION
- PROPOSED SURFACE SOIL SAMPLE
LOCATION

Table 4-2

Surface Soil Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Skeet Range
Parcel 69(Q)
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-69Q-SS01	HR-69Q-SS01-SS-HJJ0001-REG	0-1	HR-69Q-SS02-SS-HJJ0001-FD		HR-69Q-SS01-SS-HJJ0001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, and PCBs

CI Pest. - Chlorinated Pesticides.

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

OP Pest. - Organophosphorous Pesticide.

PCB - Polychlorinated biphenyl.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 4-3

**Groundwater Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Skeet Range
Parcel 69(Q)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	Sample Matrix	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-69Q-MW01	HR-69Q-MW01-GW-HJJ3001-REG	Groundwater			HR-69Q-MW01-GW-HJJ3001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate
HR-69Q-MW02	HR-69Q-MW02-GW-HJJ3002-REG	Groundwater	HR-69Q-MW02-GW-HJJ3003-FD			TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 4-4

**Analytical Samples
Range Sampling
Iron Mountain Road
Skeet Range
Parcel 69(Q)
Fort McClellan, Calhoun County, Alabama**

Parameters	Analysis Method	Sample Matrix	TAT Needed	Field Samples			QA/QC Samples ^a					EMAX	QA Lab
				No. of Sample Points	No. of Events	No. of Field Samples	Field Dups (10%)	Splits w/ QA Lab (0%)	MS/MSD (5%)	Trip Blank (1/ship)	Eq. Rinse (1/wk/matrix)	Total No. Analysis	Total No. Analysis

Iron Mountain Road - Skeet Range, Parcel 69(Q): 2 water matrix samples (2 groundwater samples) and 1 soil matrix sample (1 surface soil)

TCL VOCs	8260B	water	normal	2	1	2	1		1	1	1	7	0
TCL SVOCs	8270C	water	normal	2	1	2	1		1	1	1	7	0
TAL Metals	6010B/7000	water	normal	2	1	2	1		1	1	1	7	0
Nitroexplosives	8330	water	normal	2	1	2	1		1	1	1	7	0
Perchlorate	314	water	normal	2	1	2	1		1	1	1	7	0
TCL VOCs	8260B/5035	soil	normal	1	1	1	1		1		1	5	0
TCL SVOCs	8270C	soil	normal	1	1	1	1		1		1	5	0
TAL Metals	6010B/7000	soil	normal	1	1	1	1		1		1	5	0
Nitroexplosives	8330	soil	normal	1	1	1	1		1		1	5	0
Cyanide	9012B	soil	normal	1	1	1	1		1		1	5	0
OP Pesticides	8141A	soil	normal	1	1	1	1		1		1	5	0
CI Pesticides	8081A	soil	normal	1	1	1	1		1		1	5	0
Herbicides	8151A	soil	normal	1	1	1	1		1		1	5	0
Perchlorate	314	soil	normal	1	1	1	1		1		1	5	0
PCBs	8082	soil	normal	1	1	1	1		1		1	5	0
Skeet Range Subtotal:				14			9	0	9	5	9	55	0

^aField duplicate and MS/MSD samples were calculated as a percentage of the field samples collected per site and were rounded to the nearest whole number.

Trip blank samples will be collected in association with water matrix samples for VOC analysis only. Assumed four field samples per day to estimate trip blanks. Equipment blanks will be collected once per event whenever sampling equipment is field decontaminated and re-used. They will be repeated weekly for sampling events that are anticipated to last more than 1 week. Assumed 20 field samples will be collected per week to estimate number of equipment blanks.

Ship samples to: EMAX Laboratories, Inc
1835 205th Street
Torrance, CA 90501
Attn: Elizabeth McIntyre
Tel: 310-618-8889
Fax: 310-618-0818

ASTM - American Society for Testing and Materials.
CI Pesticides - Chlorinated Pesticides.
Dups - Duplicates.
Eq. Rinse - Equipment rinse.

MS/MSD - Matrix spike/matrix spike duplicate.
OP Pesticides - Organophosphorous Pesticides.
PCB - Polychlorinated Biphenyl.
QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.
TAL - Target analyte list.
TCL - Target compound list.
VOC - Volatile organic compound.

5.0 Iron Mountain Road – Range 19, Parcel 75(Q)

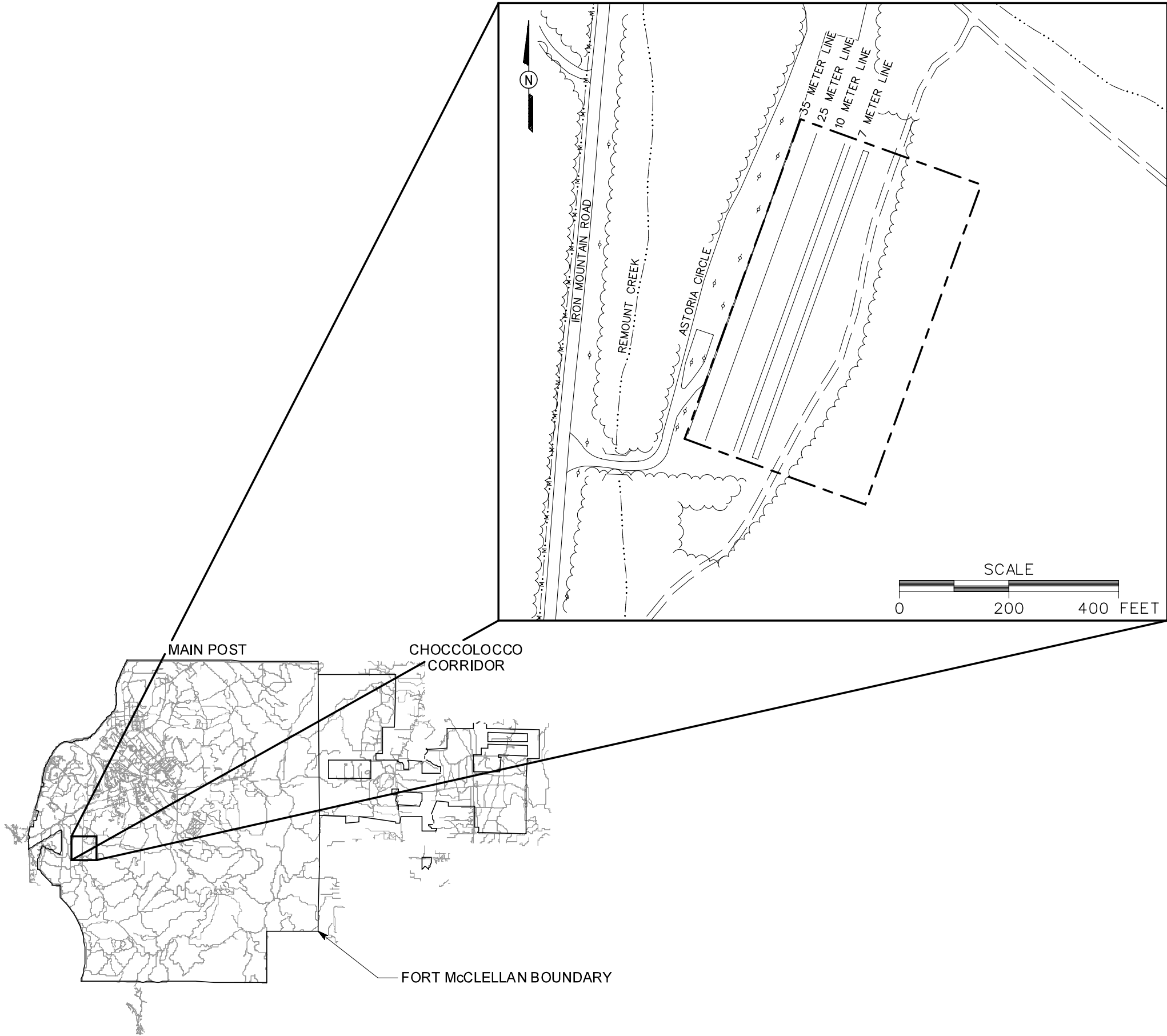
5.1 Site Description

Range 19, Parcel 75(Q), the Qualification Pistol Range, was constructed in 1976 and was in operation until October 1998. This range was used by U.S. Army personnel as the main range on base for small arms training. Historically, ordnance fired at the range has consisted mainly of 9-mm, .38-caliber, .45-caliber, and shotgun rounds.

The total site, including the extensive range fan, consists of 1,529 acres. Because of the hilly terrain, contamination is not expected to be found within the range fans; however, XRF samples will be collected at strategic locations to address the potential for lead contamination within the range fans. The primary focus of this investigation is limited to approximately 5 to 7 acres. This includes an open firing area with gravel firing lines spaced at 7, 10, 25, and 35 meters. An eastern facing, three-tiered berm/hill, approximately 75 feet high, serves as the main impact zone. Nine outbuildings and supporting structures were included at Range 19. These buildings, which were removed in 1999, have been identified as the site office, latrines, a target house, two concrete pads/foundations (that may have been former structures), covered bleachers, and sheds. Site access is via a semicircular gravel road that connects the firing line area to Iron Mountain Road. Refer to Figure 5-1 for the Range 19, Parcel 75(Q) location.

5.2 Sample Locations and Rationale

The sampling locations and rationale are listed in Table 5-1. Proposed sampling locations are shown in Figure 5-2. Surface soil sample designations and QA/QC sample requirements are summarized in Table 5-2. Groundwater sample designations and QA/QC sample requirements are summarized in Table 5-3. The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Table 5-4 of this SFSP and Table 6-1 in the QAP. The final sampling locations will be determined in the field by the on-site geologist, based on actual field conditions. Refer to Section 13.0 of this SFSP for a detailed discussion of the range sampling.



LEGEND

- UNIMPROVED ROADS AND PARKING
- PAVED ROADS AND PARKING
- BUILDING
- TREES / TREELINE
- BOUNDARY OF FIRING LINE AND VISIBLE BULLET FRAGMENT IMPACTED AREAS
- CULVERT WITH HEADWALL
- SURFACE DRAINAGE / CREEK
- MANMADE SURFACE DRAINAGE FEATURE
- UTILITY POLE

FIGURE 5-1
SITE LOCATION MAP
RANGE 19
PARCEL 75(Q)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

Table 5-1

**Sampling Locations and Rationale
Range Sampling
Iron Mountain Road
Range 19, Parcel 75(Q)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Media	Sample Location Rationale
HR-75Q-MW01	Groundwater	Residuum monitoring well to be installed in the central portion of Range 19, adjacent to proposed bedrock monitoring well HR-75Q-MW02. The monitoring well is to be installed downgradient of the impact area for the range. The completed depth of the well is anticipated to be approximately 45 feet below ground surface (bgs). Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a local groundwater flow direction, characterize site-specific geology, and provide information on groundwater quality in the residuum aquifer.
HR-75Q-MW02	Groundwater	Bedrock monitoring well to be installed in the central portion of Range 19, adjacent to proposed residuum monitoring well HR-75Q-MW01. The monitoring well is to be installed downgradient of the impact area for the range. The completed depth of the well is anticipated to be approximately 100 feet bgs. Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a vertical hydraulic gradient, characterize site-specific geology, and provide information on groundwater quality in the bedrock aquifer.
HR-75Q-MW03	Groundwater	Residuum monitoring well to be installed on the northern end of Range 19. The monitoring well is to be installed downgradient of the impact area for the range. The completed depth of the well is anticipated to be approximately 45 feet bgs. Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a local groundwater flow direction, characterize site-specific geology, and provide information on groundwater quality in the residuum aquifer.
HR-75Q-MW04	Groundwater	Residuum monitoring well to be installed on the southern end of Range 19. The monitoring well is to be installed downgradient of the impact area for the range. The completed depth of the well is anticipated to be approximately 45 feet bgs. Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a local groundwater flow direction, characterize site-specific geology, and provide information on groundwater quality in the residuum aquifer.
HR-75Q-SS01	Surface soil	Surface soil sample location to be collected from the northern end of the impact area for Range 19. Surface soil sample will be analyzed for a complete set of parameters to determine if Range 19 has been impacted with any additional contaminants (there is known lead contamination). Soil sample data will also be used to assess potential impacts to terrestrial biota that might utilize the site for food and/or habitat.
HR-75Q-SS02	Surface soil	Surface soil sample location to be collected from the central portion of the impact area for Range 19. Surface soil sample will be analyzed for a complete set of parameters to determine if Range 19 has been impacted with any additional contaminants (there is known lead contamination). Soil sample data will also be used to assess potential impacts to terrestrial biota that might utilize the site for food and/or habitat.
HR-75Q-SS03	Surface soil	Surface soil sample location to be collected from the southern end of the impact area for Range 19. Surface soil sample will be analyzed for a complete set of parameters to determine if Range 19 has been impacted with any additional contaminants (there is known lead contamination). Soil sample data will also be used to assess potential impacts to terrestrial biota that might utilize the site for food and/or habitat.

Table 5-2

Surface Soil Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Range 19
Parcel 75(Q)
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-75Q-SS01	HR-75Q-SS01-SS-HGG0001-REG	0-1			HR-75Q-SS01-SS-HGG0001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, and PCBs
HR-75Q-SS02	HR-75Q-SS02-SS-HGG0002-REG	0-1	HR-75Q-SS02-SS-HGG0003-FD			TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, and PCBs
HR-75Q-SS03	HR-75Q-SS03-SS-HGG0004-REG	0-1				TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, and PCBs

CI Pest. - Chlorinated Pesticides.

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

OP Pest. - Organophosphorous Pesticide.

PCB - Polychlorinated biphenyl.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 5-3

Groundwater Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Range 19
Parcel 75(Q)
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Designation	Sample Matrix	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-75Q-MW01	HR-75Q-MW01-GW-HGG3001-REG	Groundwater			HR-75Q-MW01-GW-HGG3001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate
HR-75Q-MW02	HR-75Q-MW02-GW-HGG3002-REG	Groundwater	HR-75Q-MW02-GW-HGG3003-FD			TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate
HR-75Q-MW03	HR-75Q-MW03-GW-HGG3004-REG	Groundwater				TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate
HR-75Q-MW04	HR-75Q-MW04-GW-HGG3005-REG	Groundwater				TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 5-4

**Analytical Samples
Range Sampling
Iron Mountain Road
Range 19
Parcel 75(Q)
Fort McClellan, Calhoun County, Alabama**

Parameters	Analysis Method	Sample Matrix	TAT Needed	Field Samples			QA/QC Samples*					EMAX	QA Lab
				No. of Sample Points	No. of Events	No. of Field Samples	Field Dups (10%)	Splits w/ QA Lab (0%)	MS/MSD (5%)	Trip Blank (1/ship)	Eq. Rinse (1/wk/matrix)	Total No. Analysis	Total No. Analysis
Iron Mountain Road - Range 19, Parcel 75(Q): 4 water matrix samples (4 groundwater samples) and 3 soil matrix samples (3 surface soil)													
TCL VOCs	8260B	water	normal	4	1	4	1		1	1	1	9	0
TCL SVOCs	8270C	water	normal	4	1	4	1		1	1	1	9	0
TAL Metals	6010B/7000	water	normal	4	1	4	1		1	1	1	9	0
Nitroexplosives	8330	water	normal	4	1	4	1		1	1	1	9	0
Perchlorate	314	water	normal	4	1	4	1		1	1	1	9	0
TCL VOCs	8260B/5035	soil	normal	3	1	3	1		1		1	7	0
TCL SVOCs	8270C	soil	normal	3	1	3	1		1		1	7	0
TAL Metals	6010B/7000	soil	normal	3	1	3	1		1		1	7	0
Nitroexplosives	8330	soil	normal	3	1	3	1		1		1	7	0
Cyanide	9012B	soil	normal	3	1	3	1		1		1	7	0
OP Pesticides	8141A	soil	normal	3	1	3	1		1		1	7	0
Cl Pesticides	8081A	soil	normal	3	1	3	1		1		1	7	0
Herbicides	8151A	soil	normal	3	1	3	1		1		1	7	0
Perchlorate	314	soil	normal	3	1	3	1		1		1	7	0
PCBs	8082	soil	normal	3	1	3	1		1		1	7	0
Range 19 Subtotal:						32	9	0	9	5	9	73	0

^aField duplicate and MS/MSD samples were calculated as a percentage of the field samples collected per site and were rounded to the nearest whole number.

Trip blank samples will be collected in association with water matrix samples for VOC analysis only. Assumed four field samples per day to estimate trip blanks. Equipment blanks will be collected once per event whenever sampling equipment is field decontaminated and re-used. They will be repeated weekly for sampling events that are anticipated to last more than 1 week. Assumed 20 field samples will be collected per week to estimate number of equipment blanks.

Ship samples to: EMAX Laboratories, Inc
1835 205th Street
Torrance, CA 90501
Attn: Elizabeth McIntyre
Tel: 310-618-8889
Fax: 310-618-0818

ASTM - American Society for Testing and Materials.
Cl Pesticides - Chlorinated Pesticides.
Dups - Duplicates.
Eq. Rinse - Equipment rinse.

MS/MSD - Matrix spike/matrix spike duplicate.
OP Pesticides - Organophosphorous Pesticides.
PCB - Polychlorinated Biphenyl.
QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.
TAL - Target analyte list.
TCL - Target compound list.
VOC - Volatile organic compound.

6.0 Iron Mountain Road – Range 13, Parcel 71(Q)

6.1 Site Description

Range 13, Parcel 71(Q), the Qualification Pistol Range, was constructed in 1951 and was in operation until October 1998. This range was most recently used for small arms training by U.S. Marine Corps personnel stationed at FTMC. Historically, ordnance fired at the range consisted of 9-mm pistols and unidentified machine guns. In addition, FTMC Base Regulation 350-2 states .22- to .45-caliber pistols, .22-caliber rifles, and shotguns were also fired at Range 13 (FTMC, 1991). Spent rifle cartridge casings have also been found at Range 13, indicating some large caliber rifle firing may also have occurred. Interviews conducted by ESE with long-term FTMC employees indicate that the area around Range 12 and Range 13 was used as a machine gun range in the 1960s. A map, dated 1966, confirms the interview reports identifying a range in the vicinity of Range 12 and Range 13 as a “Machine Gun Range, 30 meter, Basic” (ESE, 1998).

The total site, including the range fan, encompasses 549 acres. Because of the hilly terrain of this range, contamination is not expected to be found within the range fan; however, XRF samples will be collected at strategic locations within the range fan to address the potential for lead contamination. The primary focus of this investigation is limited to approximately 5 acres. Range 13 included a 20-station firing line that was 120-feet long and was located 35 meters from an electrified target line. Both the firing lines and the electrified target lines were removed from the range in 1999. A small berm that served as the main impact zone for this portion of the range was located immediately behind the electrified target line. Approximately 150 feet behind the first small berm, a secondary berm is found that parallels the first berm. Both berms contain bullets and bullet fragments on their surface.

Immediately to the south of the former covered firing line, depressions are found in the soil that indicate a second covered firing line previously existed. The approximate length of this structure was 180 feet. In addition to the depressions on the ground, two large signs are located on the berm wall that indicate the northern and southern limits of the range. The extent of bullets and bullet fragments on the berm surface correspond to the location of these signs.

Several outbuildings and supporting structures were included at Range 13. These buildings (which were removed in 1999) were identified as a target house, range tower, two concrete pads/foundations, and sheds. Site access is via a semi-circular gravel road that connects the

firing line area to Iron Mountain Road on the north and Range 12, Parcel 70(Q) on the south. Refer to Figure 6-1 for the Range 13, Parcel 71(Q) location.

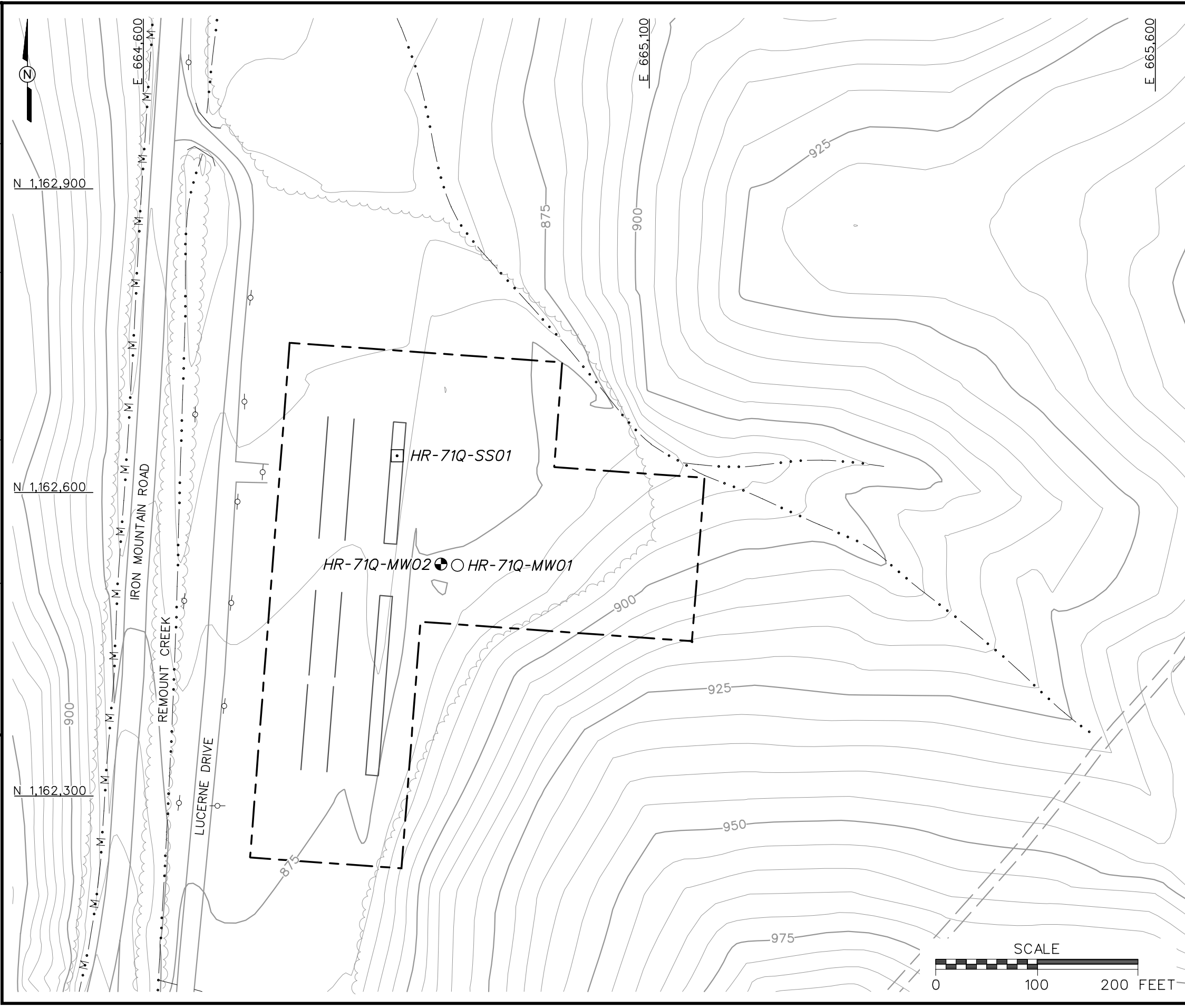
6.2 Sample Locations and Rationale

The sampling locations and rationale are listed in Table 6-1. Proposed sampling locations are shown in Figure 6-2. Surface soil sample designations and QA/QC sample requirements are summarized in Table 6-2. Groundwater sample designations and QA/QC sample requirements are summarized in Table 6-3. The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Table 6-4 of this SFSP and Table 6-1 in the QAP. The final sampling locations will be determined in the field by the on-site geologist, based on actual field conditions. Refer to Section 13.0 of this SFSP for a detailed discussion of the range sampling.

Table 6-1

**Sampling Locations and Rationale
Range Sampling
Iron Mountain Road
Range 13, Parcel 71(Q)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Media	Sample Location Rationale
HR-71Q-MW01	Groundwater	Residuum monitoring well to be installed adjacent to proposed bedrock monitoring well HR-71Q-MW02. The monitoring well is to be installed in the west-central portion of the impact area, in a location that is downgradient of the majority of the impact area for the range. The completed depth of the well is anticipated to be approximately 45 feet below ground surface (bgs). Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a local groundwater flow direction, characterize site-specific geology, and provide information on groundwater quality in the residuum aquifer.
HR-71Q-MW02	Groundwater	Bedrock monitoring well to be installed adjacent to proposed residuum monitoring well HR-71Q-MW01. The monitoring well is to be installed in the west-central portion of the impact area, in a location that is downgradient of the majority of the impact area for the range. The completed depth of the well is anticipated to be approximately 100 feet bgs. Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a vertical hydraulic gradient, characterize site-specific geology, and provide information on groundwater quality in the bedrock aquifer.
HR-71Q-SS01	Surface soil	Surface soil sample location to be collected near the Engineering Evaluation/Cost Analysis soil sample location (SS20) where a high concentration of lead was detected. Surface soil sample will be analyzed for a complete set of parameters to determine if Range 13 has been impacted with any additional contaminants (there is known lead contamination). Soil sample data will also be used to assess potential impacts to terrestrial biota that might utilize the site for food and/or habitat.



LEGEND

UNIMPROVED ROADS AND PARKING

PAVED ROADS AND PARKING

BUILDING

TREES / TREELINE

TOPOGRAPHIC CONTOURS
(CONTOUR INTERVAL - 5 FOOT)

BOUNDARY OF FIRING LINE AND VISIBLE
BULLET FRAGMENT IMPACTED AREAS

CULVERT WITH HEADWALL

SURFACE DRAINAGE / CREEK

MANMADE SURFACE DRAINAGE
FEATURE

FENCE

UTILITY POLE

PROPOSED BEDROCK MONITORING WELL
LOCATION

PROPOSED RESIDUUM MONITORING WELL
LOCATION

PROPOSED SURFACE SOIL SAMPLE
LOCATION

FIGURE 6-2
PROPOSED SAMPLE LOCATION MAP
RANGE 13
PARCEL 71(Q)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

IT

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Table 6-2

Surface Soil Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Range 13
Parcel 71(Q)
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-71Q-SS01	HR-71Q-SS01-SS-HFF0001-REG	0-1	HR-71Q-SS01-SS-HFF0002-FD		HR-71Q-SS01-SS-HFF0001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, and PCBs

CI Pest. - Chlorinated Pesticides.

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

OP Pest. - Organophosphorous Pesticide.

PCB - Polychlorinated biphenyl.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 6-3

Groundwater Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Range 13
Parcel 71(Q)
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Designation	Sample Matrix	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-71Q-MW01	HR-71Q-MW01-GW-HFF3001-REG	Groundwater			HR-71Q-MW01-GW-HFF3001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate
HR-71Q-MW02	HR-71Q-MW02-GW-HFF3002-REG	Groundwater	HR-71Q-MW02-GW-HFF3003-FD			TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 6-4

**Analytical Samples
Range Sampling
Iron Mountain Road
Range 13
Parcel 71(Q)
Fort McClellan, Calhoun County, Alabama**

Parameters	Analysis Method	Sample Matrix	TAT Needed	Field Samples			QA/QC Samples*					EMAX	QA Lab
				No. of Sample Points	No. of Events	No. of Field Samples	Field Dups (10%)	Splits w/ QA Lab (0%)	MS/MSD (5%)	Trip Blank (1/ship)	Eq. Rinse (1/wk/matrix)	Total No. Analysis	Total No. Analysis
Iron Mountain Road - Range 13, Parcel 71(Q): 2 water matrix samples (2 groundwater samples) and 1 soil matrix sample (1 surface soil)													
TCL VOCs	8260B	water	normal	2	1	2	1		1	1	1	7	0
TCL SVOCs	8270C	water	normal	2	1	2	1		1	1	1	7	0
TAL Metals	6010B/7000	water	normal	2	1	2	1		1	1	1	7	0
Nitroexplosives	8330	water	normal	2	1	2	1		1	1	1	7	0
Perchlorate	314	water	normal	2	1	2	1		1	1	1	7	0
TCL VOCs	8260B/5035	soil	normal	1	1	1	1		1		1	5	0
TCL SVOCs	8270C	soil	normal	1	1	1	1		1		1	5	0
TAL Metals	6010B/7000	soil	normal	1	1	1	1		1		1	5	0
Nitroexplosives	8330	soil	normal	1	1	1	1		1		1	5	0
Cyanide	9012B	soil	normal	1	1	1	1		1		1	5	0
OP Pesticides	8141A	soil	normal	1	1	1	1		1		1	5	0
Cl Pesticides	8081A	soil	normal	1	1	1	1		1		1	5	0
Herbicides	8151A	soil	normal	1	1	1	1		1		1	5	0
Perchlorate	314	soil	normal	1	1	1	1		1		1	5	0
PCBs	8082	soil	normal	1	1	1	1		1		1	5	0
Range 13 Subtotal:						14	9	0	9	5	9	55	0

^aField duplicate and MS/MSD samples were calculated as a percentage of the field samples collected per site and were rounded to the nearest whole number.

Trip blank samples will be collected in association with water matrix samples for VOC analysis only. Assumed four field samples per day to estimate trip blanks. Equipment blanks will be collected once per event whenever sampling equipment is field decontaminated and re-used. They will be repeated weekly for sampling events that are anticipated to last more than 1 week. Assumed 20 field samples will be collected per week to estimate number of equipment blanks.

Ship samples to: EMAX Laboratories, Inc
1835 205th Street
Torrance, CA 90501
Attn: Elizabeth McIntyre
Tel: 310-618-8889
Fax: 310-618-0818

ASTM - American Society for Testing and Materials.

Cl Pesticides - Chlorinated Pesticides.

Dups - Duplicates.

Eq. Rinse - Equipment rinse.

MS/MSD - Matrix spike/matrix spike duplicate.

OP Pesticides - Organophosphorous Pesticides.

PCB - Polychlorinated Biphenyl.

QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

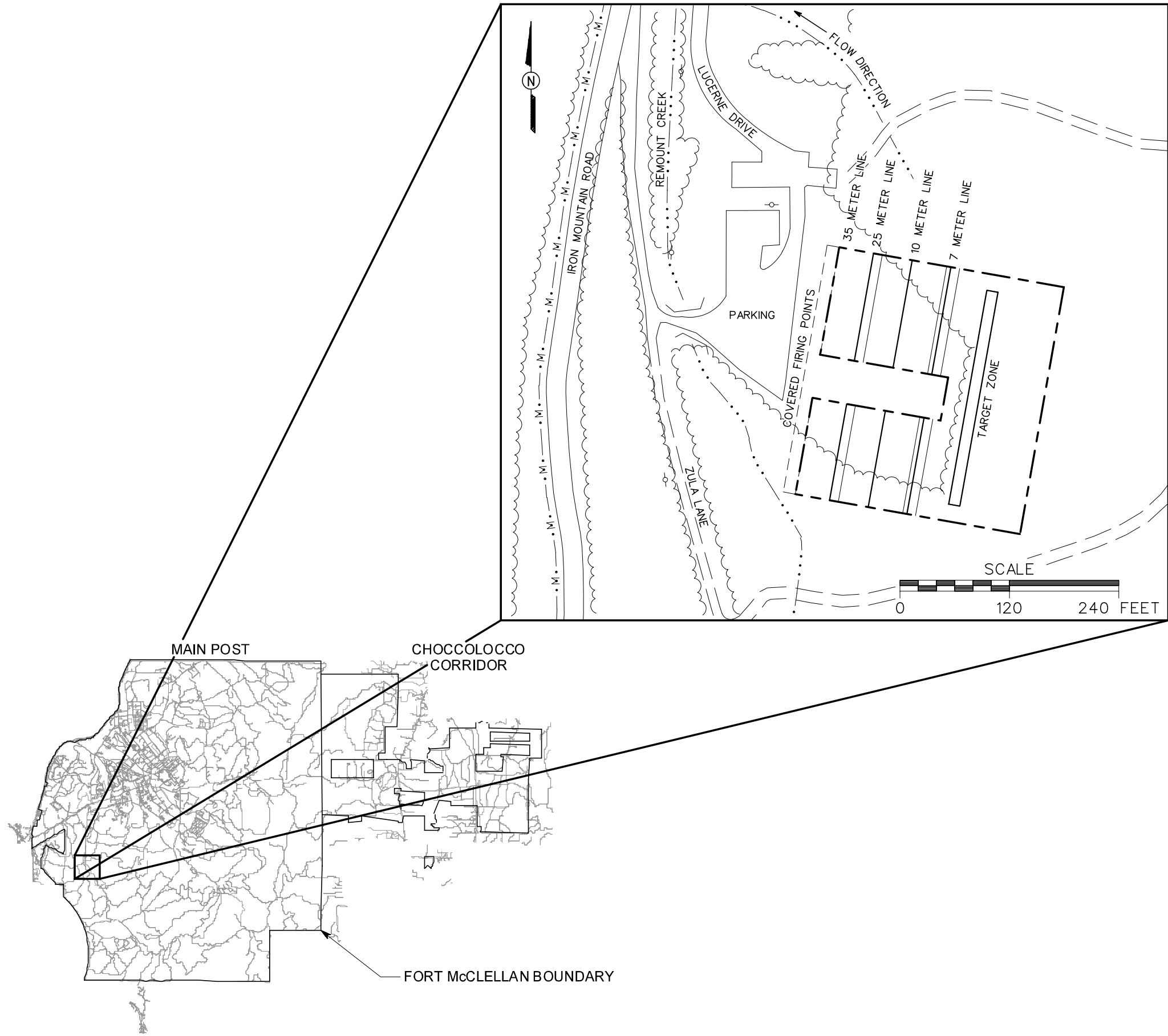
7.0 Iron Mountain Road – Range 12, Parcel 70(Q)

7.1 Site Description

Range 12, Parcel 70(Q), was constructed in 1951 and was in operation until October 1998. When the range was built it was first listed as “Range 14” and was described as a “1,000-inch range”. By 1967, the range was renamed Range 12, the Competitive Pistol Range. Historically, ordnance fired at the range consisted of 9-mm pistols and unidentified machine guns. In addition, FTMC Base Regulation 350-2 states .22- to .45-caliber pistols, .22-caliber rifles, and shotguns were also fired at Range 12 (FTMC, 1991). Interviews conducted by ESE with long-term FTMC employees indicate that the area around Range 12 and Range 13 was used as a machine gun range in the 1960s. A map, dated 1966, confirms the interview reports identifying a range in the vicinity of Range 12 and Range 13 as a “Machine Gun Range, 30 meter, Basic” (ESE, 1998). Refer to Figure 7-1 for the Range 12, Parcel 70(Q) location. Because of the hilly terrain of this range, contamination is not expected to be found within the range fan; however, XRF samples will be collected at strategic locations within the range fan to address the potential for lead contamination.

7.2 Sample Locations and Rationale

The sampling locations and rationale are listed in Table 7-1. Proposed sampling locations are shown in Figure 7-2. Surface soil sample designations and QA/QC sample requirements are summarized in Table 7-2. Groundwater sample designations and QA/QC sample requirements are summarized in Table 7-3. The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Table 7-4 of this SFSP and Table 6-1 in the QAP. The final sampling locations will be determined in the field by the on-site geologist, based on actual field conditions. Refer to Section 13.0 of this SFSP for a detailed discussion of the range sampling.



LEGEND

- UNIMPROVED ROADS AND PARKING
- PAVED ROADS AND PARKING
- BUILDING
- TREES / TREELINE
- BOUNDARY OF FIRING LINE AND VISIBLE BULLET FRAGMENT IMPACTED AREAS
- CULVERT WITH HEADWALL
- SURFACE DRAINAGE / CREEK
- MANMADE SURFACE DRAINAGE FEATURE
- UTILITY POLE

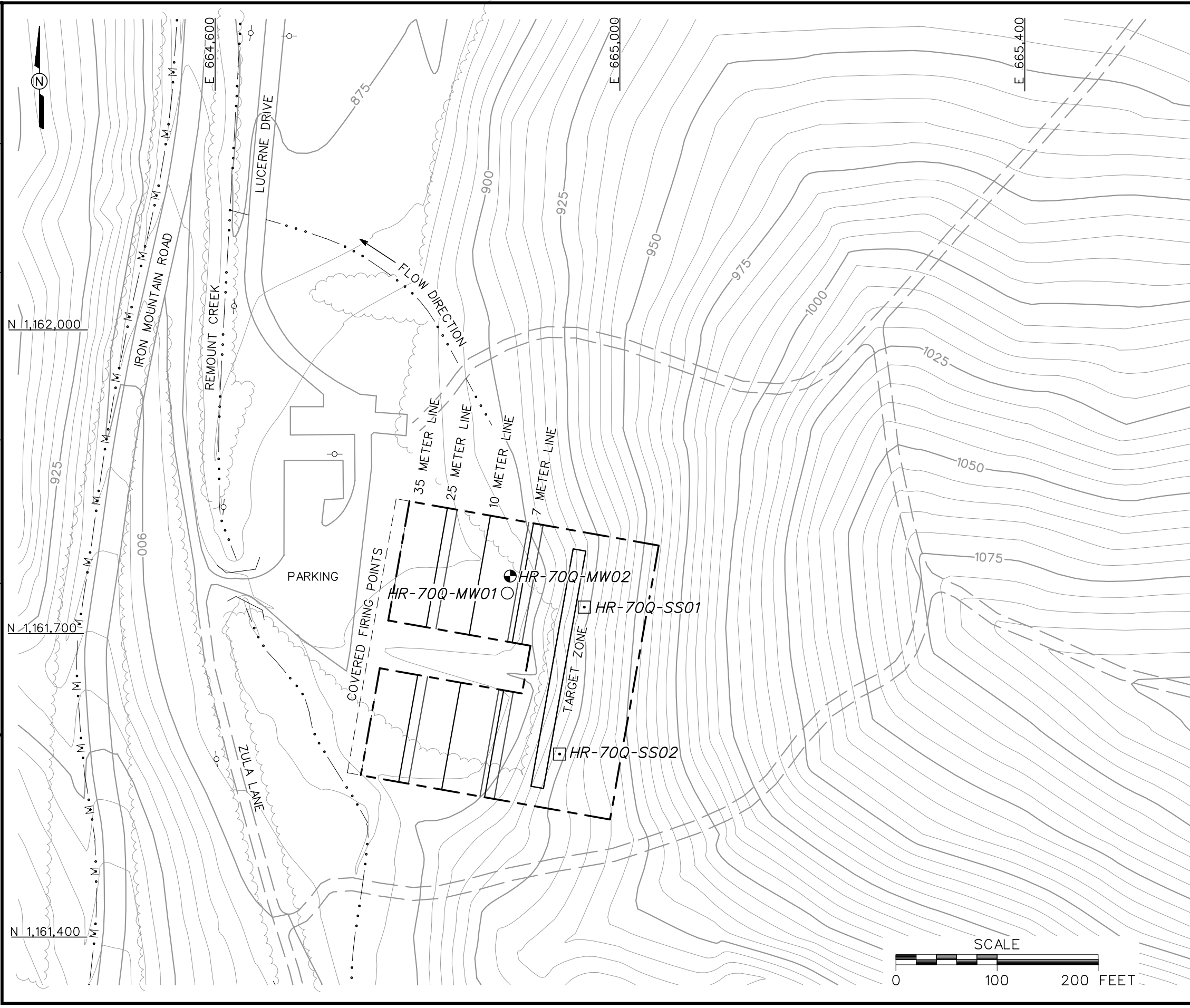
FIGURE 7-1
SITE LOCATION MAP
RANGE 12
PARCEL 70(Q)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

Table 7-1

**Sampling Locations and Rationale
Range Sampling
Iron Mountain Road
Range 12, Parcel 70(Q)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Media	Sample Location Rationale
HR-70Q-MW01	Groundwater	Residuum monitoring well to be installed adjacent to proposed bedrock monitoring well HR-70Q-MW02. The monitoring well is to be installed in the northern firing line in a location that is downgradient of the impact area for the range. The completed depth of the well is anticipated to be approximately 45 feet below ground surface (bgs). Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a local groundwater flow direction, characterize site-specific geology, and provide information on groundwater quality in the residuum aquifer.
HR-70Q-MW02	Groundwater	Bedrock monitoring well to be installed adjacent to proposed residuum monitoring well HR-70Q-MW01. The monitoring well is to be installed in the northern firing line in a location that is downgradient of the impact area for the range. The completed depth of the well is anticipated to be approximately 100 feet bgs. Sample data will indicate if contaminant releases into the environment have occurred from the use of this area and if contaminated media exist at this site. The monitoring well location will be used to establish a vertical hydraulic gradient, characterize site-specific geology, and provide information on groundwater quality in the bedrock aquifer.
HR-70Q-SS01	Surface soil	Surface soil sample location to be collected near the north central portion of the impact area for the range. Surface soil sample will be analyzed for a complete set of parameters to determine if Range 12 has been impacted with any additional contaminants (there is known lead contamination). Soil sample data will also be used to assess potential impacts to terrestrial biota that might utilize the site for food and/or habitat.
HR-70Q-SS02	Surface soil	Surface soil sample location to be collected near the south central portion of the impact area for the range. Surface soil sample will be analyzed for a complete set of parameters to determine if Range 12 has been impacted with any additional contaminants (there is known lead contamination). Soil sample data will also be used to assess potential impacts to terrestrial biota that might utilize the site for food and/or habitat.



LEGEND

UNIMPROVED ROADS AND PARKING

PAVED ROADS AND PARKING

BUILDING

TREES / TREELINE

TOPOGRAPHIC CONTOURS
(CONTOUR INTERVAL - 5 FOOT)

BOUNDARY OF FIRING LINE AND VISIBLE
BULLET FRAGMENT IMPACTED AREAS

CULVERT WITH HEADWALL

SURFACE DRAINAGE / CREEK

MANMADE SURFACE DRAINAGE
FEATURE

FENCE

UTILITY POLE

PROPOSED BEDROCK MONITORING WELL
LOCATION

PROPOSED RESIDUUM MONITORING WELL
LOCATION

PROPOSED SURFACE SOIL SAMPLE
LOCATION

FIGURE 7-2
PROPOSED SAMPLE LOCATION MAP
RANGE 12
PARCEL 70(Q)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

IT

IT CORPORATION
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Table 7-2

Surface Soil Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Range 12
Parcel 70(Q)
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-70Q-SS01	HR-70Q-SS01-SS-HEE0001-REG	0-1			HR-70Q-SS01-SS-HEE0001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, and PCBs
HR-71Q-SS02	HR-70Q-SS02-SS-HEE0002-REG	0-1	HR-70Q-SS02-SS-HEE0003-FD			TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, and PCBs

CI Pest. - Chlorinated Pesticides.

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

OP Pest. - Organophosphorous Pesticide.

PCB - Polychlorinated biphenyl.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 7-3

**Groundwater Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Range 12
Parcel 70(Q)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	Sample Matrix	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-70Q-MW01	HR-70Q-MW01-GW-HEE3001-REG	Groundwater			HR-70Q-MW01-GW-HEE3001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate
HR-71Q-MW02	HR-70Q-MW02-GW-HEE3002-REG	Groundwater	HR-70Q-MW02-GW-HEE3003-FD			TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, and Perchlorate

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 7-4

**Analytical Samples
Range Sampling
Iron Mountain Road
Range 12
Parcel 70(Q)
Fort McClellan, Calhoun County, Alabama**

Parameters	Analysis Method	Sample Matrix	TAT Needed	Field Samples			QA/QC Samples*					EMAX	QA Lab
				No. of Sample Points	No. of Events	No. of Field Samples	Field Dups (10%)	Splits w/ QA Lab (0%)	MS/MSD (5%)	Trip Blank (1/ship)	Eq. Rinse (1/wk/matrix)	Total No. Analysis	Total No. Analysis
Iron Mountain Road - Range 12, Parcel 70(Q): 2 water matrix samples (2 groundwater samples) and 2 soil matrix samples (2 surface soil)													
TCL VOCs	8260B	water	normal	2	1	2	1		1	1	1	7	0
TCL SVOCs	8270C	water	normal	2	1	2	1		1	1	1	7	0
TAL Metals	6010B/7000	water	normal	2	1	2	1		1	1	1	7	0
Nitroexplosives	8330	water	normal	2	1	2	1		1	1	1	7	0
Perchlorate	314	water	normal	2	1	2	1		1	1	1	7	0
TCL VOCs	8260B/5035	soil	normal	2	1	2	1		1		1	6	0
TCL SVOCs	8270C	soil	normal	2	1	2	1		1		1	6	0
TAL Metals	6010B/7000	soil	normal	2	1	2	1		1		1	6	0
Nitroexplosives	8330	soil	normal	2	1	2	1		1		1	6	0
Cyanide	9012B	soil	normal	2	1	2	1		1		1	6	0
OP Pesticides	8141A	soil	normal	2	1	2	1		1		1	6	0
CI Pesticides	8081A	soil	normal	2	1	2	1		1		1	6	0
Herbicides	8151A	soil	normal	2	1	2	1		1		1	6	0
Perchlorate	314	soil	normal	2	1	2	1		1		1	6	0
PCBs	8082	soil	normal	2	1	2	1		1		1	6	0
Range 12 Subtotal:						18	9	0	9	5	9	59	0

*Field duplicate and MS/MSD samples were calculated as a percentage of the field samples collected per site and were rounded to the nearest whole number.

Trip blank samples will be collected in association with water matrix samples for VOC analysis only. Assumed four field samples per day to estimate trip blanks. Equipment blanks will be collected once per event whenever sampling equipment is field decontaminated and re-used. They will be repeated weekly for sampling events that are anticipated to last more than 1 week. Assumed 20 field samples will be collected per week to estimate number of equipment blanks.

Ship samples to: EMAX Laboratories, Inc
1835 205th Street
Torrance, CA 90501
Attn: Elizabeth McIntyre
Tel: 310-618-8889
Fax: 310-618-0818

ASTM - American Society for Testing and Materials.
CI Pesticides - Chlorinated Pesticides.
Dups - Duplicates.
Eq. Rinse - Equipment rinse.

MS/MSD - Matrix spike/matrix spike duplicate.
OP Pesticides - Organophosphorous Pesticides.
PCB - Polychlorinated Biphenyl.
QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.
TAL - Target analyte list.
TCL - Target compound list.
VOC - Volatile organic compound.

8.0 Iron Mountain Road – Remount Creek Area

8.1 Site Description

Remount Creek is located west of the Skeet Range and Ranges 12, 13, and 19. Remount Creek has several tributaries and flows from the south to the north. One tributary flows through the southwestern portion of the Skeet Range and one tributary flows through the northern portion of the Skeet Range. There are no other surface water features present within the boundaries of Ranges 12, 13, or 19. Surface water runoff follows the topography and generally flows west-northwest toward Remount Creek. Remount Creek flows north and joins Cane Creek in the central area of the Main Post.

8.2 Sample Locations and Rationale

The surface water sampling rationales are listed in Table 8-1. The samples will be collected from the locations proposed on Figure 8-1. Surface water and sediment sample designations and QA/QC sample requirements are listed in Table 8-2. The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Table 8-3 of this SFSP and Table 6-1 in the QAP. The exact sampling locations will be determined in the field by the ecological sampler, based on drainage pathways and actual field observations.

Table 8-1

**Sampling Locations and Rationale
Range Sampling
Iron Mountain Road
Remount Creek Area
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Media	Sample Location Rationale
HR-69Q-SW/SD01	Surface water and sediment	Sample location is in a tributary of Remount Creek that flows northwest across the Skeet Range, Parcel 69(Q). The sample will be collected from the same area where a previous surface water/sediment sample (SW/SD06) was collected for the Engineering Evaluation/Cost Analysis. The previous sample (SW/SD06) was analyzed for lead only and the results indicated an elevated concentration. The sample collected for this investigation (HR-69Q-SW/SD01) will be analyzed for a complete set of parameters to determine if the Remount Creek area has been impacted with any additional contaminants. Sample data will be used to assess potential impacts to aquatic biota in the creek and other ecological receptors that may use the creek for food or habitat purposes.

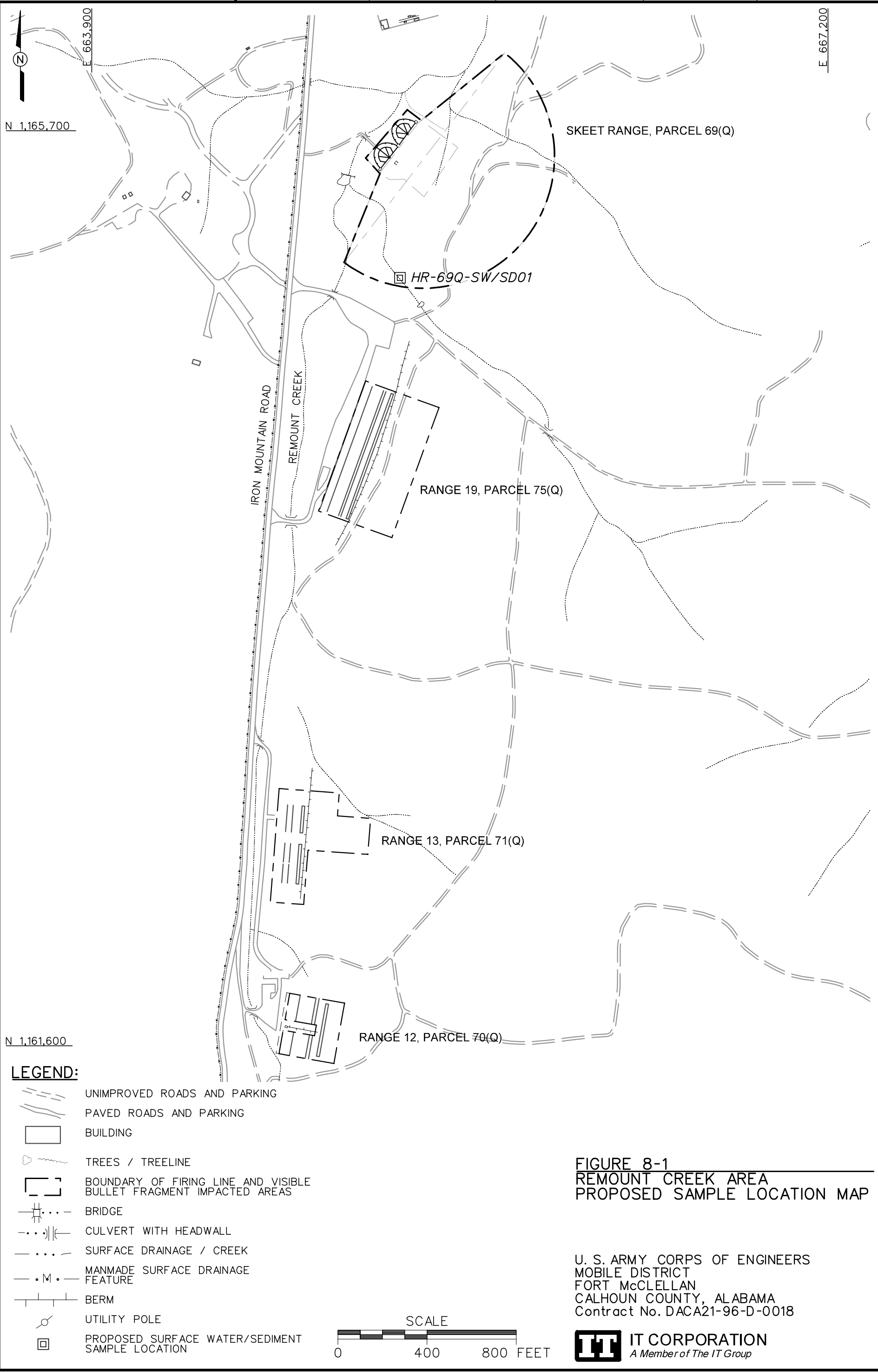


Table 8-2

Surface Water and Sediment Sample Designations and QA/QC Sample Quantities
Range Sampling
Iron Mountain Road
Remount Creek Area
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-69Q-SW/SD01	HR-69Q-SW/SD01-SW-HJJ2001-REG	NA	HR-69Q-SW/SD01-SW-HJJ2002-FD		HR-69Q-SW/SD01-SW-HJJ2001-MS/MSD	TCL VOCs, TCL SVOCs, TAL Metals, Nitroexplosives, Perchlorate, Cyanide, OP & CI Pest., Herbicides, PCBs, TOC (sediment only), and Grain size (sediment only)
	HR-69Q-SW/SD01-SD-HJJ1001-REG	0-0.5	HR-69Q-SW/SD01-SD-HJJ1002-FD		HR-69Q-SW/SD01-SD-HJJ1001-MS/MSD	

CI Pest. - Chlorinated Pesticides.

FD - Field duplicate.

MS/MSD - Matrix spike/matrix spike duplicate.

NA - Not applicable.

OP Pest. - Organophosphorous Pesticide.

PCB - Polychlorinated biphenyl.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

TOC - Total organic carbon.

VOC - Volatile organic compound.

Table 8-3

**Analytical Samples
Range Sampling
Iron Mountain Road
Remount Creek Area
Fort McClellan, Calhoun County, Alabama**

Parameters	Analysis Method	Sample Matrix	TAT Needed	Field Samples			QA/QC Samples ^a					EMAX	QA Lab
				No. of Sample Points	No. of Events	No. of Field Samples	Field Dups (10%)	Splits w/ QA Lab (0%)	MS/MSD (5%)	Trip Blank (1/ship)	Eq. Rinse (1/wk/matrix)	Total No. Analysis	Total No. Analysis

Iron Mountain Road - Remount Creek Area: 1 water matrix sample (1 surface water) and 1 soil matrix sample (1 sediment)

TCL VOCs	8260B/5035	water	normal	1	1	1	1		1	1	1	6	0
TCL SVOCs	8270C	water	normal	1	1	1	1		1	1	1	6	0
TAL Metals	6010B/7000	water	normal	1	1	1	1		1	1	1	6	0
Nitroexplosives	8330	water	normal	1	1	1	1		1	1	1	6	0
Cyanide	9012B	water	normal	1	1	1	1		1	1	1	6	0
OP Pesticides	8141A	water	normal	1	1	1	1		1	1	1	6	0
Cl Pesticides	8081A	water	normal	1	1	1	1		1	1	1	6	0
Herbicides	8151A	water	normal	1	1	1	1		1	1	1	6	0
Perchlorate	314	water	normal	1	1	1	1		1	1	1	6	0
PCBs	8082	water	normal	1	1	1	1		1	1	1	6	0
TCL VOCs	8260B/5035	sediment	normal	1	1	1	1		1		1	5	0
TCL SVOCs	8270C	sediment	normal	1	1	1	1		1		1	5	0
TAL Metals	6010B/7000	sediment	normal	1	1	1	1		1		1	5	0
Nitroexplosives	8330	sediment	normal	1	1	1	1		1		1	5	0
Cyanide	9012B	sediment	normal	1	1	1	1		1		1	5	0
OP Pesticides	8141A	sediment	normal	1	1	1	1		1		1	5	0
Cl Pesticides	8081A	sediment	normal	1	1	1	1		1		1	5	0
Herbicides	8151A	sediment	normal	1	1	1	1		1		1	5	0
Perchlorate	314	sediment	normal	1	1	1	1		1		1	5	0
PCBs	8082	sediment	normal	1	1	1	1		1		1	5	0
TOC	9060	sediment	normal	1	1	1	1		1		1	5	0
Grain Size	ASTM 421/422	sediment	normal	1	1	1	1		1		1	5	0

Remount Creek Area Subtotal: 14 14 0 14 10 14 80 0

^aField duplicate and MS/MSD samples were calculated as a percentage of the field samples collected per site and were rounded to the nearest whole number.

Trip blank samples will be collected in association with water matrix samples for VOC analysis only. Assumed four field samples per day to estimate trip blanks. Equipment blanks will be collected once per event whenever sampling equipment is field decontaminated and re-used. They will be repeated weekly for sampling events that are anticipated to last more than 1 week. Assumed 20 field samples will be collected per week to estimate number of equipment blanks.

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